

REMARKS

Favorable reconsideration and allowance of the subject application are respectfully requested in view of the following remarks.

Summary of the Office Action

Claim 1 stands rejected under 35 U.S.C. §102(b) as being anticipated by *Takamine* (U.S. Patent No. 5,517,474).

Claims 1-2 stand rejected under 35 U.S.C. §102(b) as being anticipated by *Takeya et al.* (EP 0 807 926)

Summary of the Response to the Office Action

A copy of the United States Patent and Trademark Office postcard receipt stamped July 3, 2001 is submitted herewith. Applicants amend claims 1 and 2 by this amendment. Claims 1-2 remain currently pending for consideration.

Priority

Applicants respectfully request acknowledgment of the filing of a certified copy of Japanese Patent Application No. 2000-086532. A certified copy of this Japanese patent application was filed in the United States Patent and Trademark Office on July 3, 2001. This filing is evidenced by the enclosed copy of a postcard receipt stamped by the United States Patent and Trademark Office on July 3, 2001 listing both a Claim for Priority and a certified copy of the Japanese patent application. These papers were filed in accordance with the requirements of 35 U.S.C. §119(b). Accordingly, acknowledgment of receipt of such filing is respectfully requested in the next office communication.

Claim Rejections Under 35 U.S.C. §102(b)

Takamine

Claim 1 stands rejected under 35 U.S.C. §102(b) as being anticipated by *Takamine*. To the extent that this rejection might be applied to claim 1, as newly-amended, it is respectfully traversed for at least the following reasons.

Applicants respectfully submit that *Takamine* does not anticipate claim 1 because *Takamine* does not disclose each and every element of claim 1. For instance, it is respectfully submitted that *Takamine* fails to teach or suggest the claimed combination as set forth in independent claim 1, as newly-amended, including at least “a spherical aberration detecting portion for detecting a spherical aberration caused by a thickness error of a transparent layer of the optical disc,” and “a level correcting portion for correcting a level of said tracking error signal on the basis of a detection result of said spherical aberration detecting portion.”

In contrast to the invention set forth in claim 1 as a whole, *Takamine* discloses a technique regarding control of the level of a track error signal. In particular, *Takamine* discloses a tracking controller in which a galvano mirror recorder 19 is used as a fine tracking actuator. A tracking error signal obtained from an output of a divider 18, which is based on output signals of a photosensor 12, is supplied as a drive signal to a driving circuit 26 for driving the galvano mirror recorder 19 through a differential amplifier 31, a phase compensation circuit 22 and an adding circuit 32. By driving the galvano mirror recorder 19, a light spot is controlled to be placed on the center of a track of a disk 7. The differential amplifier 31 is supplied with an output signal of a gain adjustment circuit 30, and the level of the tracking error signal is

controlled in accordance with the gain adjustment by the gain adjustment circuit 30. See, for example, Fig. 4 of *Takamine*.

However, when the galvano mirror recorder 19 of *Takamine* rotates, deviation of a track position occurs due to an offset of the track error signal against the position of the light spot applied on the track of the disk 7. Thus, *Takamine* discloses that the gain adjustment circuit 30 works as a circuit for performing off-tracking correction, along with a sensor 21 and a sensor circuit 29. The sensor 21 detects the rotation angle of the differential amplifier 31, and the angle detection signal is supplied to the gain adjustment circuit 30 after cutting the DC component of the angle detection signal by the sensor circuit 29. Thus, the offset of the track error signal due to the rotation of the galvano-mirror recorder 19 is corrected by the off-track correction circuit. See, for example, the Abstract of *Takamine*. However, *Takamine* does not teach or suggest a configuration corresponding to “a spherical aberration detecting portion for detecting a spherical aberration caused by a thickness error of a transparent layer of the optical disc,” and “a level correcting portion for correcting a level of said tracking error signal on the basis of a detection result of said spherical aberration detecting portion,” as set forth in claim 1, as newly-amended.

M.P.E.P. § 2131 states “[t]o anticipate a claim, the reference must teach every element of the claim.” Applicants respectfully submit that since *Takamine* does not teach or suggest each and every element of claim 1, as newly-amended, *Takamine* does not anticipate claim 1. Accordingly, withdrawal of the rejection of claim 1 under 35 U.S.C. §102(b) is respectfully requested.

Takeya et al.

Claims 1-2 stand rejected under 35 U.S.C. §102(b) as being anticipated by *Takeya et al.*

To the extent that this rejection might be applied to the recited claims, as newly-amended, it is respectfully traversed for at least the following reasons.

Applicants respectfully submit that *Takeya et al.* does not anticipate claims 1 and 2 because *Takeya et al.* does not disclose at least each and every element of the recited claims. For instance, it is respectfully submitted that *Takeya et al.* does not explicitly disclose a configuration corresponding to the spherical aberration detecting portion and the level correcting portion, as set forth in independent claim 1, as newly-amended.

Takeya et al. discloses a disk reproducing apparatus having an optical system, tracking signal generating means, and tracking driving means. In the apparatus disclosed in *Takeya et al.*, when a multiple layer disk is reproduced, the amplitude gains for a tracking error signal and a focusing error signal are changed for each recording layer. The amplitude gain changes are executed for properly reproducing for each recording layer.

However, the object for changing the amplitude gains in *Takeya et al.* is different from the object of the present invention. One object of the present invention is to provide a tracking servo apparatus of an optical information recording and reproducing apparatus in which even if a spherical aberration occurs due to a thickness error of a transparent layer of an optical disc, a maximum amplitude value of a tracking error signal can be adjusted while preventing a reduction of a level of a maximum amplitude value of an RF signal. The tracking servo apparatus according to the present invention is an apparatus for solving problems that occur in a period of recording or reproducing for the same recording surface. According to a disclosed embodiment

of the present application, the amplitude of the tracking error signal is corrected in accordance with the detection result of the spherical aberration detecting means at the time of the maximum amplitude value of the RF signal.

On the other hand, in *Takeya et al.*, the tracking and focusing servo gains can be properly corrected for each recording layer. However, when the gains are properly corrected, an RF signal is not always the maximum value. Further, in *Takeya et al.*, the gain of the tracking error signal is set in accordance with the maximum amplitude value TE_p of the tracking error signal TE for a defined time T₅ which is counted by a timer, as an initial setup operation when a multiple layer disk is placed in the reproduction apparatus. See, for example, column 20, lines 8-25 of *Takeya et al.* Thus, *Takeya et al.* does not disclose a configuration for adjusting the gain of the tracking error signal when a disk is being recorded or reproduced.

Applicants respectfully submit that since *Takeya et al.* does not teach or suggest each and every element of independent claim 1, as newly-amended, *Takeya et al.* does not anticipate claim 1. Further, since claim 2 depends from claim 1, it is respectfully submitted that *Takeya et al.* also does not anticipate claim 2. Accordingly, withdrawal of the rejection of claims 1-2 under 35 U.S.C. §102(b) is respectfully requested.

Conclusion

In view of the foregoing, withdrawal of the rejections and allowance of the pending claims are earnestly solicited. Should there remain any questions or comments regarding this response or the application in general, the Examiner is urged to contact the undersigned at the number listed below.

If there are any other fees due in connection with the filing of this response, please charge the fees to our Deposit Account No. 50-0310. If a fee is required for an extension of time under 37 C.F.R. § 1.136 not accounted for above, such extension is requested and the fee should also be charged to our Deposit Account.

Respectfully submitted,

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